

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number
WO 2005/057427 A1

(51) International Patent Classification⁷: **G06F 17/30**,
H04L 29/08

(GB). **HOILE, Cefn, Richard** [GB/GB]; The Spinney, Ipswich Suffolk IP4 2XN (GB).

(21) International Application Number:
PCT/GB2004/005212

(74) Agent: **LLOYD, Barry, George, William**; PP: C5A, BT Centre, 81 Newgate Street, London Greater London EC1A 7AJ (GB).

(22) International Filing Date:
10 December 2004 (10.12.2004)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0328888.3 12 December 2003 (12.12.2003) GB

(71) Applicant (for all designated States except US): **BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY** [GB/GB]; 81 NEWGATE STREET, LONDON Greater London EC1A 7AJ (GB).

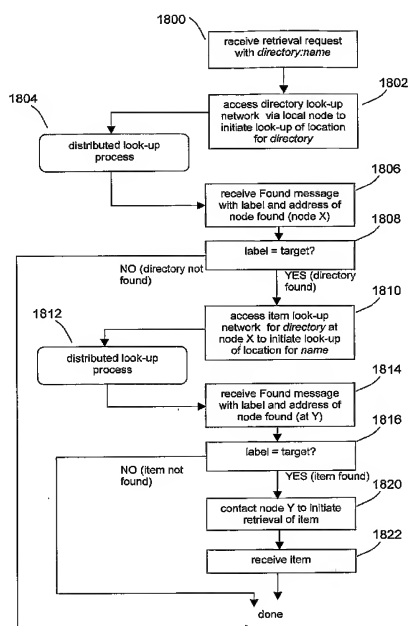
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BONSMA, Erwin, Rein** [NL/GB]; 31 Newton Road, Ipswich Suffolk IP3 8HD

[Continued on next page]

(54) Title: DISTRIBUTED COMPUTER SYSTEM



(57) Abstract: A distributed computer system has computers storing data items each data item being assigned to one of a plurality of virtual directories. Each computer has at least one node of a virtual network (10) for directory look-up, with linking data comprising addresses of other nodes associated with the same virtual directory and software that, in response to an enquiry message either replies, identifying itself or forwards the message to another node of the network (10), according to whether the node is or is not associated with the directory specified in the enquiry message. Similarly, each computer has, for each item that it stores, a node of a virtual network for item look-up, with linking data comprising addresses of other such nodes associated with items assigned to the same virtual directory, so that these linking data together define a plurality of virtual networks for item look-up, each of which networks corresponds to a respective different virtual directory. The node also has software that, in response to an enquiry message either replies with the item sought (or identifying itself for later item retrieval) or forwards the message to another node of the network, according to whether the node is or is not associated with the item specified in the enquiry message. For use in this system, or separately, a retrieval mechanism for thereby the addresses (25) of multiple nodes matching the same directory name (or other label) is described. Each node matching a given label (21a) has associated with it a data storage area for containing the label and is responsive to enquiry messages to return a list of addresses of other nodes matching the same label. First retrieval means responds to input of a label to identify the address of a node matching that label, and second retrieval means then sends an enquiry message to the address identified by the first retrieval means and upon receipt of a response to iteratively sends further enquiry messages to the node having the addresses contained in the response to that enquiry message or as the case may be in a response to a subsequent enquiry message.



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.